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Customer No. 22,852  
Attorney Docket No. 06028.0029-00000

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

*In re* Application of:

**Francois COTTARD et al.**

Application No.: 10/688,958

Filed: October 21, 2003

For: OXIDATION DYEING COMPOSITION )  
FOR KERATIN FIBERS COMPRISING A )  
CATIONIC POLY(VINYLLACTAM) AND )  
AT LEAST ONE OXIDATION DYE IN )  
THE FORM OF A SULPHATE ION )

Group Art Unit: 1751

Examiner: Unassigned

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P. O. Box 1450  
Alexandria, VA 22313-1450

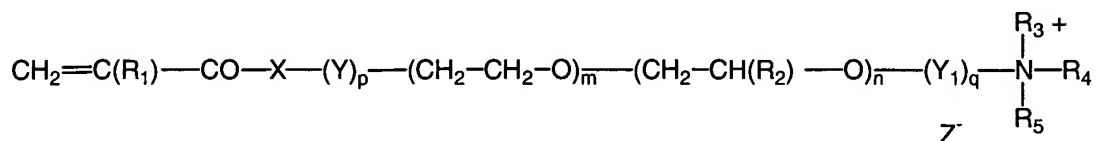
Sir:

**REQUEST FOR CORRECTED PATENT APPLICATION**  
**PUBLICATION UNDER 37 C.F.R. § 1.221(b)**

The U.S. Patent and Trademark Office published the above-identified Application No. 10/688,958 as Publication No. US 2004/0133993 A1 on July 15, 2004. The published application contains several mistakes that are the fault of the Office and may be material. Attached hereto are a copy of both the relevant pages of the originally filed application and a marked-up copy of the corresponding pages of the published application containing the mistakes.

A mistake is material when it affects the public's ability to appreciate the technical disclosure of the patent application publication or determine the scope of the provisional rights that an applicant may seek to enforce upon issuance of a patent. See C.F.R. § 1.221(b). The mistakes, which are indicated in red ink on the relevant pages of the marked-up copy of the published application attached hereto, are as follows:

1. In paragraph [0033] of the published specification, the following structure:



(Ia)

is missing the "+" sign showing its positive ionic state. See page 7 of the originally filed specification. This error occurs each time this structure appears later in the published specification. This error should be corrected in paragraph [0033] and Claims 1, 50, 54, and 57 of the published application. See pages 51, 62, 65, and 67 of the originally filed specification.

2. In paragraphs [0123] and [0124] the text should read:

[0123] Cationic Polymers Different from Those of the Invention

[0124] For the purposes of the present invention, the expression "cationic polymer" denotes any polymer comprising at least one cationic group and/or at least one group which can be ionized to at least one cationic group. See page 20 of the originally filed specification.

3. All of page 50 of the U.S. patent application, as filed, is missing from the published specification. This affects paragraph [0281], where the last two entries in the table are missing, and would add additional paragraphs [0282] through [0288]. With revision of paragraph [0281] and addition of the missing paragraphs of the application,

this section should read:

[0281] Dyeing composition (in grams):

Natural lauric acid	2.5
Oxyethylenated lauryl alcohol (12 EO)	7.5
Cetylstearyl alcohol (C16/C18 50/50)	10
Glycol monostearate	2
Oxyethylenated oleocetyl alcohol (30 EO)	3
Oxyethylenated decyl alcohol (3 EO)	10
Pyrogenic silica with a hydrophobic character	1
Pure monoethanolamine	1.2
Dimethyl diallyl ammonium chloride homopolymer as a 40% aqueous solution	7
Propylene glycol	10
Terpolymer of vinylpyrrolidone, dimethyl-aminopropylmethacrylamide and lauryldimethyl-propylmethacrylamidoammonium chloride (74/15/11)	4
Crosslinked polyacrylic acid	0.4
Diethylenetriaminepentaacetic acid, pentasodium salt as a 40% aqueous solution	2
Ammonium thiolactate as a 58% aqueous solution (50% as thiolactic acid)	0.8
Mono-tert-butylhydroquinone	0.3
Para-toluenediamine sulphate	5
1, 3-Dihydroxybenzene (resorcinol)	0.6
1-hydroxy-3-aminobenzene	0.4
1-( $\beta$ -hydroxyethyloxy)-2,4-diaminobenzene dihydrochloride	0.8
Aqueous ammonia (at 20.5% of ammonia)	10
Perfume	qs
Deionized water	qs 100

[0282] The polymer according to this embodiment of the invention is a vinyl-pyrrolidone/dimethylaminopropylmethacrylamide/lauryldimethylmethacrylamidoammonium chloride terpolymer provided by the company ISP under the name POLYMER ACP-1234.

[0283] The dyeing composition was mixed, at the time of use, in a plastic bowl and for 2 minutes, with the oxidizing composition given above, in an amount

of 1 part of dyeing composition per 1.5 parts of oxidizing composition.

[0284] The mixture obtained was unctuous and was easy to prepare.

[0285] It was applied to natural grey hair which was 90% white and was allowed to act for 30 minutes.

[0286] The product was easily removed by rinsing with water.

[0287] After washing with a standard shampoo, the hair was dried. It was dyed in a golden blond shade.

[0288] If the same composition is prepared without the cationic poly(alkyl)vinyl lactam polymer (vinylpyrrolidone/dimethylaminopropylmethacrylamide/lauryldimethylmethacrylamidoammonium chloride terpolymer), a mixture is obtained which is more difficult to prepare, less pleasant to apply and which is more difficult to remove. In addition, the dyeing composition is less stable: the cream becomes destabilized, i.e., separation is observed. The shade obtained is of an inferior quality.

4. In Claim 50 of the published specification, "Z" is incorrectly designated as "Z\_." See page 63 of the originally filed specification.

As the identified mistakes affect the scope of the claims and the public's ability to determine the same, Applicants request that the Office correct the above-identified material mistakes in the published application, which are the fault of the Office. Further, Applicants request that the Office forward a copy of the corrected published application or at least a notification of the occurrence or predicted occurrence of the corrected publication.

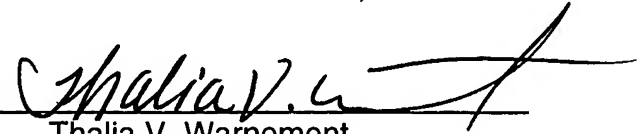
Applicants believe that no Petition or fee is due in connection with this Request. However, if any Petition or fee is due, please grant the Petition and charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Date: September 15 , 2004

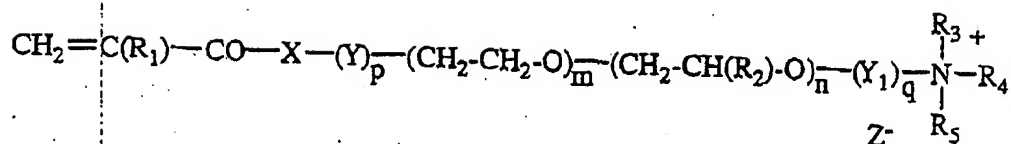
By:



Thalia V. Warnement  
Reg. No.: 39,064

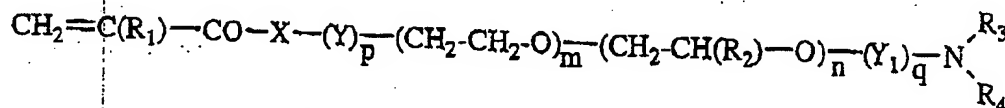
Enclosures:

- Marked-up copies of relevant pages of the published application; and
- Corresponding pages of the originally filed application.



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(Ia)



(Ib)

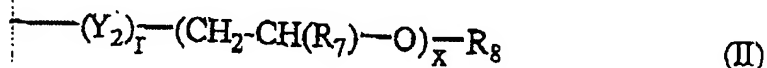
in which:

[028] X is chosen from oxygen atoms and  $\text{NR}_6$  radicals;

[029]  $\text{R}_1$  and  $\text{R}_6$ , which may be identical or different, are chosen from hydrogen atoms, linear  $\text{C}_1$ - $\text{C}_5$  alkyl radicals, and branched  $\text{C}_1$ - $\text{C}_5$  alkyl radicals,

[030]  $\text{R}_2$  is chosen from linear  $\text{C}_1$ - $\text{C}_4$  alkyl radicals and branched  $\text{C}_1$ - $\text{C}_4$  alkyl radicals,

[031]  $\text{R}_3$ ,  $\text{R}_4$  and  $\text{R}_5$ , which may be identical or different, are chosen from hydrogen atoms, linear  $\text{C}_1$ - $\text{C}_{30}$  alkyl radicals, branched  $\text{C}_1$ - $\text{C}_{30}$  alkyl radicals, and radicals of formula (II):



wherein

$-\text{Y}$ ,  $\text{Y}_1$  and  $\text{Y}_2$ , which may be identical or different, are chosen from linear  $\text{C}_2$ - $\text{C}_{16}$

dimethylpyrazolo[3,2-c]-1,2,4-triazole, 2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole, and their acid addition salts other than sulphates.

[084] When they are present, these additional couplers may be present in an amount ranging from 0.0001% to 20% by weight relative to the total weight of the composition, or, for example, from 0.005% to 5% by weight relative to the total weight of the composition.

[085] In general, the acid addition salts of the additional oxidation bases and additional couplers may, for example, be chosen from hydrochlorides, hydrobromides, tartrates, lactates, and acetates.

[086] The compositions disclosed herein may also comprise, in addition to the oxidation dyes defined above, direct dyes that may enrich the shades with glints. These direct dyes may, for example, be chosen from neutral, cationic or anionic nitro dyes, azo dyes, and anthraquinone dyes, in an amount ranging from 0.001% to 20% by weight relative to the total weight of the composition, for example, from 0.01% to 10% by weight relative to the total weight of the composition.

[087] The composition A and/or the composition B and/or the composition C as disclosed above may additionally comprise at least one amphoteric polymer or at least one cationic polymer different from the cationic poly(vinyl lactams) disclosed herein.

#### Cationic polymers different from those of the invention

[088] For the purposes of the present invention, the expression "cationic polymer" denotes any polymer comprising at least one cationic group and/or at least one group which can be ionized to at least one cationic group.

Perfume	qs
Deionized water	qs 100

[0162] The polymer according to this embodiment of the invention is a vinyl-pyrrolidone/dimethylaminopropylmethacrylamide/lauryldimethylmethacrylamidoammonium chloride terpolymer provided by the company ISP under the name POLYMER ACP-1234.

[0163] The dyeing composition was mixed, at the time of use, in a plastic bowl and for 2 minutes, with the oxidizing composition given above, in an amount of 1 part of dyeing composition per 1.5 parts of oxidizing composition.

[0164] The mixture obtained was unctuous and was easy to prepare.

[0165] It was applied to natural grey hair which was 90% white and was allowed to act for 30 minutes.

[0166] The product was easily removed by rinsing with water.

[0167] After washing with a standard shampoo, the hair was dried. It was dyed in a golden blond shade.

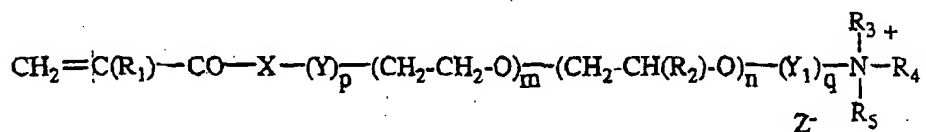
[0168] If the same composition is prepared without the cationic poly(alkyl)vinyl lactam polymer (vinylpyrrolidone/dimethylaminopropylmethacrylamide/lauryldimethylmethacrylamidoammonium chloride terpolymer), a mixture is obtained which is more difficult to prepare, less pleasant to apply and which is more difficult to remove. In addition, the dyeing composition is less stable: the cream becomes destabilized, i.e., separation is observed. The shade obtained is of an inferior quality.



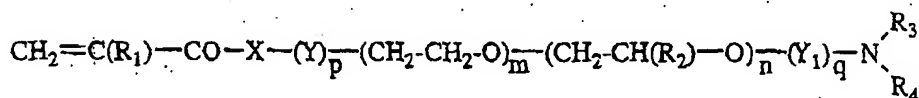
**WHAT IS CLAIMED IS:**

1. A composition for the oxidation dyeing of keratin fibers comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt, and at least one cationic poly(vinylactam) polymer comprising:

- a) at least one monomer chosen from vinylactams and alkylvinylactams; and
- b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

in which:

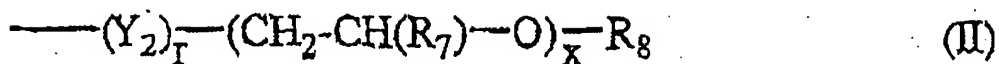
X is chosen from oxygen atoms and NR<sub>6</sub> radicals;

R<sub>1</sub> and R<sub>6</sub>, which may be identical or different, are chosen from hydrogen atoms, linear C<sub>1</sub>-C<sub>5</sub> alkyl radicals, and branched C<sub>1</sub>-C<sub>5</sub> alkyl radicals;

R<sub>2</sub> is chosen from linear C<sub>1</sub>-C<sub>4</sub> alkyl radicals and branched C<sub>1</sub>-C<sub>4</sub> alkyl radicals;

R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub>, which may be identical or different, are chosen from hydrogen atoms, linear C<sub>1</sub>-C<sub>30</sub> alkyl radicals, branched C<sub>1</sub>-C<sub>30</sub> alkyl radicals, and radicals of formula

(II):



in which:

Y, Y<sub>1</sub> and Y<sub>2</sub>, which may be identical or different, are chosen from linear C<sub>2</sub>-C<sub>16</sub> alkylene radicals and branched C<sub>2</sub>-C<sub>16</sub> alkylene radicals;

R<sub>7</sub> is chosen from hydrogen atoms, linear C<sub>1</sub>-C<sub>4</sub> alkyl radicals, branched C<sub>1</sub>-C<sub>4</sub> alkyl radicals, linear C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl radical, and branched C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl radicals;

R<sub>8</sub> is chosen from hydrogen atoms, linear C<sub>1</sub>-C<sub>30</sub> alkyl radicals, and branched C<sub>1</sub>-C<sub>30</sub> alkyl radicals;

p, q and r which may be identical or different, are chosen from 0 and 1;

m and n, which may be identical or different, are chosen from integers ranging from 0 to 100;

x is an integer ranging from 1 to 100,

Z<sup>-</sup> is chosen from organic acid anions and inorganic acid anions,

with the provisos that:

- at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>8</sub> is chosen from linear C<sub>9</sub>-C<sub>30</sub> alkyl radicals and branched C<sub>9</sub>-C<sub>30</sub> alkyl radicals,
- if either m or n is different from 0, then q is 1,
- if either m or n is 0, then either p or q is 0.

2. The composition according to Claim 1, wherein the keratin fibers are hair.

44. The composition according to Claim 1, further comprising at least one reducing agent, in quantities ranging from 0.05% to 3% by weight relative to the total weight of the composition.

45. The composition according to Claim 1, further comprising at least one oxidizing agent and wherein the composition is ready for use.

46. The composition according to Claim 45, wherein the at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, alkali metal ferricyanides, persalts, and oxidation-reduction enzymes optionally with the respective donor or cofactor.

47. The composition according to Claim 46, wherein the at least one oxidizing agent is hydrogen peroxide.

48. The composition according to Claim 47, wherein the at least one oxidizing agent is a hydrogen peroxide solution whose titre ranges from 1 to 40 volumes.

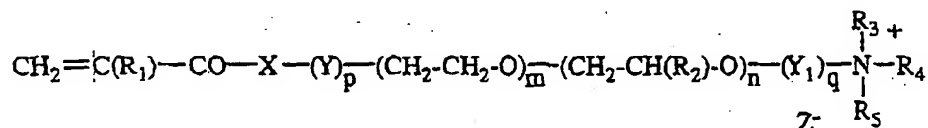
49. The composition according to Claim 45, wherein the pH ranges from 4 to 11.

50. A method for dyeing keratin fibers comprising  
applying to the fibers at least one composition A comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt,  
developing the color at a pH chosen from alkaline, neutral and acidic with the aid of

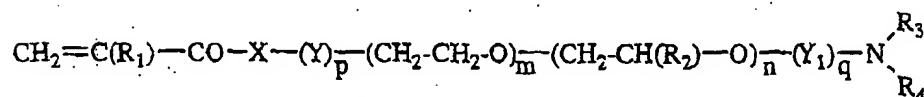
a composition B comprising at least one oxidizing agent, wherein composition B is mixed with composition A at the time of use, or applied sequentially to the composition A without intermediate rinsing,

wherein at least one cationic poly(vinylactam) is present in the composition A, in the composition B or in both compositions A and B, said at least one cationic poly(vinylactam) comprising:

- a) at least one monomer chosen from vinylactams and alkylvinylactams; and
- b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

in which:

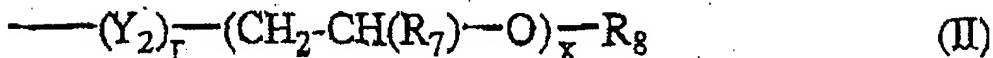
X is chosen from oxygen atoms and  $\text{NR}_6$  radicals;

$\text{R}_1$  and  $\text{R}_6$ , which may be identical or different, are chosen from hydrogen atoms,

linear  $\text{C}_1$ - $\text{C}_5$  alkyl radicals, and branched  $\text{C}_1$ - $\text{C}_5$  alkyl radicals;

$\text{R}_2$  is chosen from linear  $\text{C}_1$ - $\text{C}_4$  alkyl radicals and branched  $\text{C}_1$ - $\text{C}_4$  alkyl radicals;

$R_3$ ,  $R_4$  and  $R_5$ , which may be identical or different, are chosen from hydrogen atoms, linear  $C_1$ - $C_{30}$  alkyl radicals, branched  $C_1$ - $C_{30}$  alkyl radicals, and radicals of formula (II):



in which:

$Y$ ,  $Y_1$  and  $Y_2$ , which may be identical or different, are chosen from linear  $C_2$ - $C_{16}$

alkylene radicals and branched  $C_2$ - $C_{16}$  alkylene radicals;

$R_7$  is chosen from hydrogen atoms, linear  $C_1$ - $C_4$  alkyl radicals, branched  $C_1$ - $C_4$  alkyl radicals, linear  $C_1$ - $C_4$  hydroxyalkyl radical, and branched  $C_1$ - $C_4$  hydroxyalkyl radicals;

$R_8$  is chosen from hydrogen atoms, linear  $C_1$ - $C_{30}$  alkyl radicals, and branched  $C_1$ - $C_{30}$  alkyl radicals;

$p$ ,  $q$  and  $r$  which may be identical or different, are chosen from 0 and 1;

$m$  and  $n$ , which may be identical or different, are chosen from integers ranging from 0 to 100;

$x$  is an integer ranging from 1 to 100,

$Z^-$  is chosen from organic acid anions and inorganic acid anions,

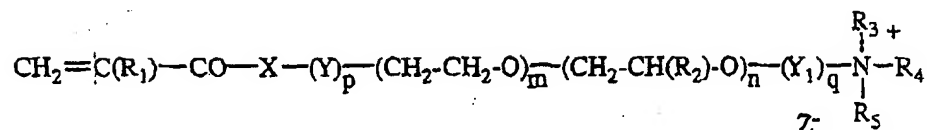
with the provisos that:

- at least one of  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_8$  is chosen from linear  $C_9$ - $C_{30}$  alkyl radicals and branched  $C_9$ - $C_{30}$  alkyl radicals,
- if either  $m$  or  $n$  is different from 0, then  $q$  is 1,
- if either  $m$  or  $n$  is 0, then either  $p$  or  $q$  is 0.

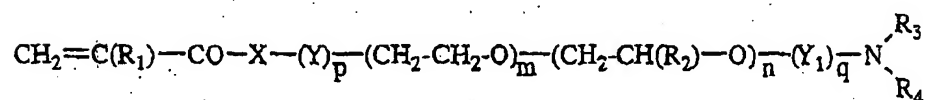
51. The method according to Claim 50, wherein the keratin fibers are hair.
52. The method according to Claim 50, wherein the at least one oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.
53. The method according to Claim 50, further comprising applying a ready to use composition, prepared at the time of use from the compositions A and B, to the keratin fibers, allowing it to act for an exposure time ranging from 1 to 60 minutes, rinsing the fibers, and then optionally washing the fibers with shampoo, rinsing the fibers again, and drying the fibers.
54. A two-compartment device for dyeing keratin fibers comprising  
a first compartment comprises a composition A1 comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt, and  
a second compartment comprises a composition B1 comprising, in a medium suitable for dyeing, at least one oxidizing agent, and  
wherein at least one cationic poly(vinyl lactam) is present in the composition A1, in the composition B1 or in both compositions A1 and B1, said at least one cationic poly(vinyl lactam) comprising:  
-a) at least one monomer chosen from vinyl lactams and alkyl vinyl lactams;

and

- b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

in which:

X is chosen from oxygen atoms and NR<sub>6</sub> radicals;

R<sub>1</sub> and R<sub>6</sub>, which may be identical or different, are chosen from hydrogen atoms,

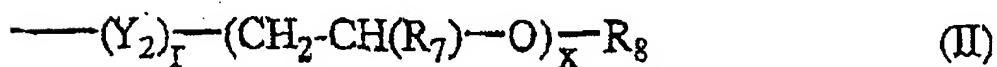
linear C<sub>1</sub>-C<sub>5</sub> alkyl radicals, and branched C<sub>1</sub>-C<sub>5</sub> alkyl radicals;

R<sub>2</sub> is chosen from linear C<sub>1</sub>-C<sub>4</sub> alkyl radicals and branched C<sub>1</sub>-C<sub>4</sub> alkyl radicals;

R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub>, which may be identical or different, are chosen from hydrogen atoms,

linear C<sub>1</sub>-C<sub>30</sub> alkyl radicals, branched C<sub>1</sub>-C<sub>30</sub> alkyl radicals, and radicals of

formula (II):



in which:

Y, Y<sub>1</sub> and Y<sub>2</sub>, which may be identical or different, are chosen from linear C<sub>2</sub>-C<sub>16</sub> alkylene radicals and branched C<sub>2</sub>-C<sub>16</sub> alkylene radicals;

R<sub>7</sub> is chosen from hydrogen atoms, linear C<sub>1</sub>-C<sub>4</sub> alkyl radicals, branched C<sub>1</sub>-C<sub>4</sub> alkyl radicals, linear C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl radical, and branched C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl radicals;

R<sub>8</sub> is chosen from hydrogen atoms, linear C<sub>1</sub>-C<sub>30</sub> alkyl radicals, and branched C<sub>1</sub>-C<sub>30</sub> alkyl radicals;

p, q and r which may be identical or different, are chosen from 0 and 1;

m and n, which may be identical or different, are chosen from integers ranging from 0 to 100;

x is an integer ranging from 1 to 100,

Z<sup>-</sup> is chosen from organic acid anions and inorganic acid anions,

with the provisos that:

- at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>8</sub> is chosen from linear C<sub>9</sub>-C<sub>30</sub> alkyl radicals and branched C<sub>9</sub>-C<sub>30</sub> alkyl radicals,
- if either m or n is different from 0, then q is 1,
- if either m or n is 0, then either p or q is 0.

55. The two-compartment device according to Claim 54, wherein the keratin fibers are hair.

56. The two-compartment device according to Claim 54, wherein the at least one oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.



57. A three-compartment device for dyeing keratin fibers, comprising

a first compartment comprises a composition A2 comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt,

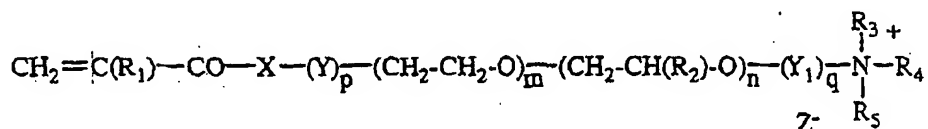
a second compartment comprising a composition B2 comprising, in a medium suitable for dyeing, at least one oxidizing agent, and

a third compartment comprising a composition C comprising, in a medium suitable for dyeing, at least one cationic poly(vinyl lactam),

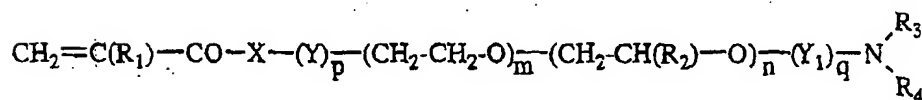
it being possible for the composition A2, the composition B2, or both compositions A2 and B2 to also comprise said at least one cationic poly(vinyl lactam),

wherein said at least one cationic poly(vinyl lactam) comprises:

- a) at least one monomer chosen from vinyl lactams and alkyl vinyl lactams; and
- b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

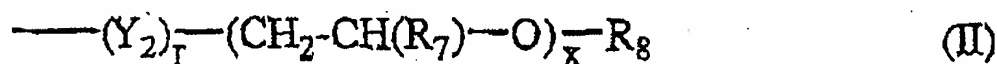
in which:

X is chosen from oxygen atoms and  $\text{NR}_6$  radicals;

$\text{R}_1$  and  $\text{R}_6$ , which may be identical or different, are chosen from hydrogen atoms, linear  $\text{C}_1\text{-C}_5$  alkyl radicals, and branched  $\text{C}_1\text{-C}_5$  alkyl radicals;

$\text{R}_2$  is chosen from linear  $\text{C}_1\text{-C}_4$  alkyl radicals and branched  $\text{C}_1\text{-C}_4$  alkyl radicals;

$\text{R}_3$ ,  $\text{R}_4$  and  $\text{R}_5$ , which may be identical or different, are chosen from hydrogen atoms, linear  $\text{C}_1\text{-C}_{30}$  alkyl radicals, branched  $\text{C}_1\text{-C}_{30}$  alkyl radicals, and radicals of formula (II):



in which:

$\text{Y}$ ,  $\text{Y}_1$  and  $\text{Y}_2$ , which may be identical or different, are chosen from linear  $\text{C}_2\text{-C}_{16}$  alkylene radicals and branched  $\text{C}_2\text{-C}_{16}$  alkylene radicals;

$\text{R}_7$  is chosen from hydrogen atoms, linear  $\text{C}_1\text{-C}_4$  alkyl radicals, branched  $\text{C}_1\text{-C}_4$  alkyl radicals, linear  $\text{C}_1\text{-C}_4$  hydroxyalkyl radical, and branched  $\text{C}_1\text{-C}_4$  hydroxyalkyl radicals;

$\text{R}_8$  is chosen from hydrogen atoms, linear  $\text{C}_1\text{-C}_{30}$  alkyl radicals, and branched  $\text{C}_1\text{-C}_{30}$  alkyl radicals;

$p$ ,  $q$  and  $r$  which may be identical or different, are chosen from 0 and 1;

$m$  and  $n$ , which may be identical or different, are chosen from integers ranging from 0 to 100;

$x$  is an integer ranging from 1 to 100,

$\text{Z}^-$  is chosen from organic acid anions and inorganic acid anions,

with the provisos that:

- at least one of  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_8$  is chosen from linear  $C_9$ - $C_{30}$  alkyl radicals and branched  $C_9$ - $C_{30}$  alkyl radicals,
- if either  $m$  or  $n$  is different from 0, then  $q$  is 1,
- if either  $m$  or  $n$  is 0, then either  $p$  or  $q$  is 0.

58. The three-compartment device according to Claim 57, wherein the keratin fibers are hair.

59. The three-compartment device according to Claim 57, wherein the at least one oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.